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ABSTRACT

Weakening and deletion of syllable-final and word-final phonemes, a phenomenon prevalant in Puerto Rican Spanish, was studied. Two of these phonemes, /s#/ and /n#/ were examined for their capacity as plural markers. Data were collected during a one-year ethnographically-oriented study of a single block in the Puerto Rican community in north Philadelphia. Tape-recorded interviews were conducted with first generation Puerto Ricans over age 21. All were dominant, if not monolingual, speakers of Puerto Rican Spanish, about 33 percent of whom claimed to speak no English at all, although many had lived in Philadelphia for over 20 years. The linguistic interviews were conducted in Puerto Rican Spanish, using an interview schedule adapted to suit the needs of the community. In studying the verbal inflection /n#/, the same sorts of constraints were studied that were found to be operative for the plural inflection /s#/. These study questions were: (1) Did a subject NP accompany the verb in question, and if so, did it precede or follow the verb? (2) Did any additional disambiguating information accompany the verb? (3) Was the type of disambiguating information morphological or nonmorphological? and (4) Did the verb itself contain some morphophonemic change indicative of plurality? (SW)

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ON DELETION AND DISAMBIGUATION IN PUERTO RICAN SPANISH: A STUDY OF VERBAL /n#/

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Language Policy Task Force

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On Deletion and Disambiguation in Puerto Rican Spanish: A Study of Verbal /n#/

Shana Poplack
Language Policy Task Force

This paper deals with a phenomenon common to dialects of the Hispanic Caribbean, and particularly prevalent in Puerto Rican Spanish (PRS) spoken in the United States: weakening and deletion of syllable-final and word-final phonemes.

Two of these phonemes, /s#/ and /n#/, appear in PRS in the environments listed in Table 1 below:

ENVIRONMENT	/s#/	/n#/
word-internal	ESTO	ENTRE
word-final monomorphemic	MES	TREN
word-final plural	COSAS	HABLAN
2d person singular	HABLAS	

Table 1. Distribution of environments of occurrence of /s#/ and /n#/ in Spanish.

I focus specifically on these phonemes in their capacity as plural markers. Standard Spanish marks plurality redundantly across the NP, so that there will be as many copies of the plural marker as there are items in a sentence with the same referent, as in (1):

1. Tienen muchos juegos de esos pintados en el suelo diferentes. (C.T. #80)[2] (They have many different games like that painted on the ground.)

Plurality is similarly repeated in the VP, where the verb must agree with its subject in person and number, as in (2). This results in maximal redundancy within the sentence.

2. Tu sabes, los doctores trataron de--sin operarla, a ver si la podían arreglar. (E.O. #12) (You know, the doctors tried to--without operating, to see if they could fix her up.)

Both /s#/ and /n#/ are subject to processes of weakening and deletion which are well-documented for a variety of Caribbean dialects studied to date (e.g., Cedergren 73, 75; Terrell 75a, 75b, 78; Ma and Herasimchuk 68; Matluck 61).

The most frequently attested phonetic realizations resulting from the operation of these processes are listed in (3) below:

3.

/s#/	/n#/
[s] alveolar sibilant	[n] alveolar nasal
[h] voiced or voiceless pharyngeal fricative	[N] homorganic realization with following consonant
[Ø] phonetic zero	[ŋ] velar nasal
	[ṽ] deleted nasal with nasalization of preceding vowel
	[Ø] phonetic zero

The dialect of PRS I am about to describe is, to my knowledge, the only Caribbean dialect with a significant enough proportion of

[Ø] realizations of verbal /n#/ to justify analyzing them in a separate category rather than including them under the category of nasalized vowel. The presence of these [Ø] variants of both /s#/, the nominal[3] plural marker, and /n#/, the verbal plural marker, naturally raised the following questions: if the plural markers[4] are deleted from both the NP and the VP, theoretically rendering certain plural sentences, such as (4b), indistinguishable from singular sentences, like (4c); and if these sentences are still perceived as conveying plurality, what are the factors responsible for disambiguation?

4a. plural: Bailaban [n] unas [s] nenas [s] bien bonitas [s] . (Some pretty girls were dancing.)
4b. deleted plural: Bailaban [Ø] unas [Ø] nenas [Ø] bien bonitas [Ø] .
4c. singular: Bailaba una nena bien bonita. (A pretty girl was dancing.)

The initial working hypothesis I proposed to investigate is an approximation to Kiparsky's "distinctness conditions," i.e., there is a tendency for semantically relevant information to be retained in surface structure (Kiparsky 1972:195). Following this functionalist hypothesis, we would expect certain phonological processes to be blocked in those environments where their application would wipe out morphological distinctions on the surface. Thus Labov et al. (1968:130) found a higher rate of final [- t,d] deletion in monomorphemic types like MIST than in past tense forms like PASSED, leading them to postulate that deletion

rules would operate more frequently in monomorphemes than if the deleted element was a morpheme itself.

The PRS data I will report on however, provide evidence contrary to this hypothesis. As can be seen in Table 2, there is more deletion of inflections, as in COSAS and HABLAN, than in monomorphemic forms like MES and TREN.

GRAMMATICAL STATUS	/s#/	/n#/
INFLECTION	65% (n=8527)	9% (n=3390)
MONOMORPHEME	54% (n=4028)	1% (n=3457)

Table 2. Percentage of deletion of /s#/ and /n#/ by grammatical status.

Similarly, Cedergren found that the deletion rate for inflectional /r#/ was higher than the deletion rate for monomorphemic /r#/ (1973:110). These findings suggest that the constraints governing marker deletion are more complex than those which have heretofore been examined.

Other studies of functional constraints on deletion (Terrell 75b; Guy and Braga 76) have limited themselves to the examination of surface features within the sentence to explain this phenomenon. Terrell, in a study of functional constraints on /s#/ deletion in Cuban Spanish, claims that "Spanish speakers consistently avoid

suppressing all traces of a morphological indication of number... The /s/ which is preserved is the first plural marker encountered in surface structure" (1975b:436). Thus in a NP string, such as (5a), the marker will be retained on the determiner, according to Terrell, effectively conveying plural information while eliminating redundancy from the remainder of the string.

5a. UNAS NENA(S) BONITA(S).
5b. UNA {[s] / [h]} NENA {[s] / [h]} BONITA___.
5c. UNA [Ø] NENA [Ø] BONITA___.

That the determiner is the most conservative grammatical category as regards /s#/ deletion has been corroborated by studies of other dialects (Cedergren 73; Ma and Herasimchuk 68; Guy and Braga 76), including one by the author (Poplack 77), which examined the contribution of syntactic, semantic and morphological factors to the deletion of plural /s#/ in PRS. From that study it emerged, however, that although "determiner" or "first position in the string" is indeed a favorable environment for marker (i.e., [s] or [h]) retention, by no means does retention operate categorically in this position. In fact, I showed there that an opposite effect obtains: one of local redundancy, or a tendency towards concord on the string level. This can be seen in Table 3:

POSITION OF TOKEN IN STRING:	3	2	1
MARKER(S) PRECEDING TOKEN:			
ØØ ---	.73		
SØ ---	.68		
Ø ---		.52	
S ---		.44	
ØS, SS ---	.4		
'nothing' ---			.24

Table 3. Probability of plural /sØ/ deletion by position in NP and presence of preceding marker, using version II of the Cedergren-Sankoff variable rule program. (S= [s] and [h]) (From Poplack 77.)

Table 3 displays probabilities of deletion using version II of the Cedergren-Sankoff variable rule program, which calculates factor probabilities for the application of a given rule. Factor probabilities vary between Ø and 1, with figures higher than .5 favoring rule application. The higher the figure, the greater the contribution to rule application. A figure of .5 itself, or one close to it, has no effect on the application of the rule. Table 3 shows that [Ø] , or the absence of a marker on the segment preceding the token in question, favors deletion on that token, whereas presence of an immediately preceding marker favors retention of a marker on the token in question. First position in the string is the most conservative of all. This means, that in our hypothetical example (5) above, if the first part of the string were realized as in (5c), the probability of deletion of the plural marker on BONITAS, in third position in the string, would be high, at .73.

If the string were realized as in (5b), with markers in both first and second position, the probability of /s#/ deletion on BONITAS would be rather low, at .4. The probability of deletion on UNAS, determiner in first position in the string, is lowest, at .24.

This tendency towards local redundancy accounts in part for the fact that I encountered nearly 1000 NP strings, containing two to three elements, with no morphological marker of the plural at all.

It then became clear that factors both within and outside the NP, in addition to the traditional ones of "following phonological segment," "following stress," etc. had to be included in the analysis in order to explicate the process whereby speakers of PRS disambiguate noun phrases with no morphological trace of the plural. In Poplack 77 I considered four major types of disambiguation which will be reviewed in (6) below, as they are also crucial to the analysis of verbal /n#/.

6. Type of Disambiguation

Inflection within the NP:

6a. Las matas. (The plants.)

Morphological Support:

Within NP:

6b. Los reyes. (The kings.)

Outside NP:

6c. La(s) mata(s) se mueren. (The plants are dying.)

Non-morphological Support:

Semantic:

6d. Un par de mata(s). (A couple of plants.)

6e. Yo mi(s) hijo(s) le(s) digo... (I tell my kids.)

Syntactic:

6f. Era(n) persona(s) como que adivinaba(n).
(They were people who, like, told the future.)

Any Combination of the Above:

6g. Vinieron gente de todas partes. (People came from all over.)

In (6a) the only possibility of disambiguation is inflectional, by adding a marker ([s] or [h]) to some element of the NP. In (6b) whether or not a marker is present, the stem vowel changes on the determiner and the noun differentiate plural from singular. Similarly, in (6c), due to Spanish number concordance rules, any realization of the verbal plural inflection /n/ other than [Ø] , adequately conveys plurality. In (6d) the number of the noun is disambiguated by the construction UN PAR DE which is understood to mean "more than one." Instrumental in the correct disambiguation of (6e) is the shared knowledge that the speaker has several children. Certain rules of syntactic placement may also convey plurality, as in (6f), where an unmodified noun immediately following a verb is understood as plural. Finally, any combination of these possibilities for disambiguation was included as a separate category (6g) under the assumption that, following a functionalist hypothesis, more deletion would occur in the presence of more disambiguating factors.

Although Table 4 below shows that the quantity of disambiguating information does not have much effect on deletion, one striking result emerges. If the only possibility for plural

disambiguation is that of morphologically inflecting an element of the NP, /s#/ is deleted much less frequently than if there are additional possibilities for conveying plurality.

POSSIBILITY OF DISAMBIGUATION	PERCENTAGE OF DELETION
MORPHOLOGICAL	65%
NON-MORPHOLOGICAL	71%
BOTH MORPHOLOGICAL AND NON	70%
INFLECTION IN NP ONLY	39%

N = 8527

Table 4. Percentage of plural /s#/ deletion in the presence of other disambiguating factors.

The fact that deleted /s#/ nonetheless accounts for 39% of the data when it represents the only disambiguating possibility, led me to conclude that it would be necessary to examine the behavior of the verbal plural marker in its relationship to the NP before making any functionalist claims about the elimination of surface redundancy and disambiguation in PRS sentences. It is this problem that the present study addresses.

The Sample

The data I will report on here were collected during a year-long ethnographically-oriented study of a single block in the Puerto Rican community in north Philadelphia. They consist of 24 tape-recorded interviews with first generation Puerto Ricans

over age 21. All are dominant, if not monolingual, speakers of PRS, about 33% of whom claim to speak no English at all, although many have lived in Philadelphia for over 20 years. Because this block is located two blocks from a well-established Hispanic business district, most business transactions (such as food shopping) can be conducted wholly in Spanish. At no time during the period of field work was any block resident heard to spontaneously address another in English.

Block residents can be characterized as belonging to the poorest sector of the working class. The majority were unemployed during the period of field work, and were largely restricted to their immediate area of residence. Many had never been in the downtown Philadelphia area, although this is easily accessible by public transportation. They constitute a closed and homogeneous community, quite isolated from "mainstream Philadelphia," differing in this respect from the New York Puerto Rican community we are studying at present.

The linguistic interviews were conducted wholly in PRS, using an interview schedule adapted[5] to suit the needs of the community. Because reading skills are not well developed among the informants, the interview contains no formal elicitation devices, such as word lists and reading texts. Instead, it concentrates on childhood games, recipes, customs and other cultural aspects of the Puerto Rican community. The resulting

interviews are two to three hours long and highly informal in style, containing many narratives of personal experience and group interactions among family members. The fact that these data are closer to the "vernacular" than the more formal speech data used in other studies of PRS (e.g., Ma and Herasimchuk 68; Terrell 78) explains in part the divergence of these findings from those of other investigators.

The Analysis

In studying the verbal inflection /n#/, I looked at the same sorts of constraints that were found to be operative for the plural inflection /s#/. These are listed in (7) below:

7a. Did a subject NP accompany the verb in question, and if so, did it precede or follow the verb?

7b. Did any additional disambiguating information accompany the verb, and if so, did it precede, follow or both?

7c. Was the type of disambiguating information morphological or non-morphological? (cf. (6) above)

7d. Did the verb itself contain some morphophonemic change indicative of plurality? This is the case of the third person singular copula ES and the plural SON; it is also the case of the preterite plurals which are differentiated from third person singulars by more than affixation of /n#/. (cf. viene/vienen; 'he comes/they come;' and vino/vinieron, 'he came/they came.')

I also investigated the affect of following phonological segment,

following stress and formality of speech style[6] on rule application.

From the tape-recorded data, 3184 occurrences of verbal /n#/ were coded for the above-mentioned factors, each of which contributes in varying degrees to the application of the /n#/ deletion rule. These data were analyzed using version II of the Cedergren-Sankoff variable rule program, which calculates factor probabilities for the application of the rule, according to the model $\frac{p}{1-p} = \frac{p_o}{1-p_o} \times \frac{p_1}{1-p_1} \ldots \frac{p_n}{1-p_n}$.

Results

The data indicate that most of the verbs studied (63%) were not accompanied by a surface structure subject NP. Person and number in this case must be marked inflectionally on the verb. If a subject NP is present in surface structure, the tendency is for it to appear in pre-verbal position, (26%). A much smaller percentage of subject NPs (11%) appears in post-verbal position. However, of the sentences which consist of both a surface subject NP and a VP, 85% of the verbs were accompanied by NPs with no morphological trace of the plural. In these sentences, the only remaining possibility of morphological marking is to affix a variant of /n#/ onto the verb. These results made it more crucial to study the behavior of the verb itself.

The distribution of the variants of inflectional /n#/ in the corpus can be seen in Table 5 below.

VARIANT	% OF OCCURRENCE
[N] (homorganic)	32%
[n] (non-homorganic)	5%
[ŋ] (non-homorganic)	32%
[Ṽ]	22%
[ø]	9%

N = 3184

Table 5. Distribution of verbal /n#/ variants.

Distribution of variants is fairly equally divided between velar nasal, homorganic realization with following consonant, and deleted nasal with and without nasalization of the preceding vowel. In other studies of Caribbean dialects (Cedergren 73, 75; Terrell 75a) the latter realizations have been subsumed under the category of deleted variant. In the present study they were coded into two categories, one in which the vowel preceding the deleted nasal retains a nasal quality, thus effectively conveying plural information; and one in which no trace of phonetic nasalization remains on the surface, i.e., phonetic zero. Although the zero variants account for only 9% of the corpus, this is a significant enough proportion to merit further investigation, in view of the option of wholesale plural /s#/ deletion described above. It is precisely this area, in which the possibility arises of deleting all

plural information from the surface of the sentence, which is most crucial to our understanding of deletion and disambiguation.

The results of a variable rule analysis of deleted plural /n#/ appear in Table 6a below.

SPEECH STYLE		FOLLOWING PHONOLOGICAL SEGMENT		FOLLOWING STRESS	
INFORMAL	.53	PAUSE	.52	WEAK	.51
FORMAL	.47	CONSONANT	.49	HEAVY	.49
		VOWEL	.49		

Table 6a. Contribution of speech style, following phonological segment and following stress to deletion of verbal /n#/.

Although informality of speech style favors /n#/ deletion very slightly, the nature of the following phonological segment and following stress do not appear to affect deletion at all. Although following phonological segment does not affect deletion (i.e., vowel nasalization) in Terrell's Cuban or formal PRS data (1975:269) with the exception of following vowel which is the most conservative environment for deletion in formal PRS, Cedergren's Panamanian data show a much stronger effect of following segment on deletion. Ma and Herasimchuk's PRS data is not directly comparable. More surprising, perhaps, is the fact that in Poplack 77 following phonological segment was found to have one of the strongest effects on plural /s#/ deletion. The behavior

of these constraints will be clarified as we proceed to examine the effect of functional factors on verbal /n#/ deletion.

TYPE OF 3rd PLURAL INFLECTION		PLACE OF NP		PLACE OF DISAMBIGUATING INFORMATION	
"REGULAR"	.73	AFTER VERB	.6	AFTER VERB	.75
"IRREGULAR"	.27	BEFORE VERB	.48	BEFORE VERB	.61
		NONE	.42	BEFORE & AFTER	.62
				NONE	.11

Table 6b. Contribution of type of third plural inflection, presence and place of NP, and presence and place of disambiguating information to deletion of verbal /n#/.

In Table 6b the factor "regular" refers to those verbs which form the third person plural by simply adding /n#/ to the third person singular. (e.g., HABLABA/HABLABAN) "Irregular" refers to those verbs in which singular and plural are morphophonemically differentiated by more than the simple addition of /n#/. (e.g., ES/SON; HABLÓ/HABLARON) Although deletion on "irregular" verbs would entail no ambiguity, these verbs show a low probability of deletion, at .27. On the other hand, the "regular" plural verbs, on which deletion entails the most potential ambiguity with the third person singular, are precisely the verbs for which probability of deletion is highest, at .73.

Marker deletion in precisely those environments where most information is lost is counter-functional. However, an identical

effect was found by Lemle and Naro (1977) and Guy and Braga (1976) for Brazilian Portuguese, which marks plurality on the NP and the VP in much the same way as Spanish. They suggest that this is due to a notion of "phonic salience" of the singular-plural opposition. Thus, according to them, the highest level of retention is found in those verbs where the difference between third person singular and third person plural is most marked and where deletion (lack of noun-verb agreement) is most obvious. Whether such a notion also holds true for PRS remains to be investigated. In any event, the notion of phonic salience can tell us nothing about disambiguation of number in the case of wholesale marker deletion. To get an adequate picture of this process, we must examine the behavior of the remaining functional factors.

As can be seen in Table 6b, presence and place of the NP in the string also appear to affect deletion somewhat. There is more deletion when the NP follows the verb than when it precedes it, while total absence of a NP appears to disfavor deletion. The factor which has the greatest effect on the operation of the deletion rule in plural verbs, however, is the presence and place of the additional disambiguating information. Since the place of this information does not necessarily correspond to the place of the NP (as in the case of deleted nominal plurals with no stem vowel change as in (5c) above: UNA [Ø] NENA [Ø]) these two categories were treated separately.

No additional disambiguating information of any sort ("NONE" in 6b) is the single factor which disfavors deletion of verbal /n#/ more than any other factor studied. This means that if plurality has not somehow been conveyed before the verb was uttered, either inflectionally, morphologically or semantically within the NP, or within the larger context of discourse, or through syntactic arrangement of noun and verb, the probability of marker deletion on the verb itself is extremely low (.11). If the disambiguating information either precedes the verb or both precedes and follows it, the probability of deletion is rather higher (.61). (As we saw for the noun in Table 3 above, accumulation of additional information does not contribute more to the probability of deletion.) The greatest probability of deletion occurs when the disambiguating information follows the verb.

Guy and Braga also found that marker retention was rare with post-posed subjects in Brazilian Portuguese. They explain this fact by positing that when a subject is found in what is also an object position (post-verb), the subject-verb connection is less salient, and deletion rates on the verb are much higher (1976:8). Although PRS also shows a somewhat higher deletion rate when the subject NP is post-posed, the highest deletion rate occurs when the disambiguating information follows the verb.

I suggest that high probability of deletion when the disambiguating information follows the verb (again, the factor which

contributes more to marker deletion than any other factor studied) indicates the operation of a "repair mechanism" on the part of vernacular PRS speakers. As we have seen above, if a NP is to appear at all in the surface structure of the sentence, its canonical position is before the verb. Table 6b provides striking evidence that deletion on the verb is avoided if the plural marker is the only means of conveying plural information in the sentence. The high probability of deletion when plural information follows the verb seems to indicate that insertion of information after the verb may be used as a "last resort" in order to avoid producing a sentence which is ambiguous as to number.

Let us turn now to the nature of the disambiguating information. As mentioned in (7) above, this information could be inflectional, morphological, syntactic or semantic. My corpus contained 158 verbs accompanied by NPs with none of these types of disambiguating information. This is the area in which we might expect ambiguity, if the verbal plural marker were also deleted. However, of the 158, only one of the verbs (0%) underwent marker deletion.

Furthermore, these 158 verbs represent only 5% of the data. By rule, the plural verb in vernacular PRS is accompanied by some disambiguating information. However, the overwhelming tendency is that this information is not inflectional (i.e., [s] or [h] realization somewhere in the noun phrase). Only 15% of the

verbs studied were accompanied by a preceding or following nominal inflection. In fact, the tendency with regard to plural marking in the sentence is to mark plurality on the verb itself, through realization of one or another of the phonetic variants of /n#/ listed in Table 5 above, all of which but [Ø] effectively convey plurality.

Given that the plural is one of the most concrete of all inflections and therefore the most intact, its behavior in PRS might at first glance seem unusual. There may be several different strategies which languages follow to indicate plurality. The evolution of both French and English, for example, shows that in these languages the plural inflection is retained in the NP, whereas the verb carries much less information. In PRS, however, the opposite occurs. We have seen above that Spanish verbs are usually not accompanied by surface structure subject NPs, except in cases of special emphasis. Such constructions are possible precisely because more information as to person and number is carried within the verb than in either French or English. It makes more sense to retain information on elements which, if only by their greater frequency of occurrence, carry a higher functional load.

These findings confirm a functionalist hypothesis for vernacular PRS: there <u>is</u> a tendency for semantically relevant information to be retained in surface structure. However, unlike Terrell's

findings for Cuban Spanish, the place of surface plural marking will tend to be in the verb phrase and not in the noun phrase. The findings in Poplack 77 indicated that functional factors affected deletion in the NP less than any other category studied, except following stress, while phonological factors had a large effect on deletion. The present study of the verb shows the opposite effect. Functional factors inhibit deletion the most.

These findings seem to indicate that final /s#/ deletion in PRS is a sound change which has advanced so far that its application now depends more on phonological environment than on other factors. Final /n#/ deletion, on the other hand, is a process which depends more on non-phonological considerations, namely, retention of plural information. This evidence suggests that deletion of verbal /n#/ is not a surface phonological deletion rule, as is the case for /s#/,[7] but a grammatical rule.

Additional evidence for this hypothesis may be adduced by turning to the behavior of verbal /n#/ for one other rule we examined: velarization. Table 7 shows the contribution of some of the factors mentioned above to velarization of verbal /n#/.

FOLLOWING PHONOLOGICAL SEGMENT		TYPE OF 3rd PLURAL INFLECTION		PLACE OF NP		PLACE OF DISAMBIGUATING INFORMATION	
VOWEL	.79	"REGULAR"	.5	BEFORE	.48	BEFORE	.48
PAUSE	.76	"IRREGULAR"	.5	AFTER	.47	AFTER	.47
CONSONANT	.08			NONE	.5	NONE	.37
						BOTH	.49

Table 7. Contribution of following phonological segment, type of third plural inflection, presence and place of disambiguating information to the velarization of verbal /n#/.

When Table 7 is compared with Tables 6a and 6b above, the results are striking. When we are dealing with a linguistic rule, such as velarization, whose output may have social consequences (in the event that it were a stigmatized variant) but no linguistic consequences (i.e., no loss of information), we find a striking reversal in the contribution of the factors to the implementation of the two rules. Precisely those factors which had the greatest effect on inhibiting deletion (i.e., the functional factors) show little, if any, effect on the process of velarization. And just those factors which showed no effect on deletion (following phonological segment) have the greatest effect on velarization: following vowel and pause are both very favorable to velarization of /n#/ whereas following consonant (other than [k, g], which were included under the category of "homorganic realization with the following consonant") inhibits it. This phonological effect ties in quite well with what has been found for velarization of /n#/ in Cuban Spanish, formal PRS (Terrell 75:270), and Panamanian Spanish (Cedergren 75:9).

These results demonstrate clearly how functional factors come into play to inhibit loss of information in the case of deletion of inflections, but do not affect the application of a phonological rule, which is affected mainly by phonological and social factors.

These results might also explain the behavior of different

Caribbean dialects with regard to these variables. Vernacular PRS has more plural /s#/ deletion (65%) than either Panamanian Spanish (48%, Cedergren 73:44) or Cuban Spanish (50%, Terrell 75b:433). It also appears to be less advanced in the process of nasal deletion (31%, including [Ø] variants) than either Panamanian Spanish (68%, Cedergren 75:6) or Cuban Spanish (38%, Terrell 75a:263). This study has demonstrated how the operation of functional factors inhibits loss of information in just those environments in which ambiguity is most likely to result. It is conceivable that the same factors are operating in dialects which have high rates of /n#/ deletion and lower rates of /s#/ deletion and vice-versa.

Perhaps the most striking of these results is that while vernacular PRS is eliminating redundancy from the surface structure of sentences, it appears to be reorganizing its system of plural marking. The data suggest that what appears to be surface phonological variation is in fact ongoing grammatical change in the underlying rule for plural marking, implying variability in the syntactic derivation of the sentence. This would explain variation between the standard Spanish plural marking rule, which copies the plural onto every nominal and verbal element with the same referent, and the vernacular PRS rule, which is not recursive, and therefore does not require concord. The PRS rule appears to require only that the plural be marked somewhere in the sentence. The findings in this study indicate that

that it is the verbal inflection /n#/ which is the most favorable environment for conveying information as to person and number. Although my corpus contained entire sentences with no morphological trace of the plural, this study demonstrates that through a complex interplay of semantic, syntactic and morphological factors, there is no case in the entire corpus in which ambiguity as to number results due to marker deletion.

NOTES

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2. Items in parenthesis refer to speaker and location of tape of his/her utterance.

3. "Nominal" should here be taken to mean "within the noun phrase."

4. The term "marker" in this paper refers to any phonetic realization of a particular variable other than phonetic zero.

5. The interview schedule, PRS O-GEN II, was adapted from the one developed for the Philadelphia speech community by the LCV.

6. Careful and casual speech were distinguished as follows: Narratives of personal experience, discussions of kids' games or other childhood activity from a child's point of view; tangents, where the speaker goes off in a different direction from the interviewer's first push; and group interaction were all classified as casual speech. Direct response to the interviewer's questions, discussions of language or other formal institutions, "soapbox" style, oratorical opinions and the general body of formal speech not subsumed under any of the above were classified as careful speech. This general framework was developed by the LCV.

7. I refer, of course, to the "/s#/ deletion rule" on the assumption that the underlying element is still present. The evidence seems to be pointing in the direction of a reinsertion rule.

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